

## Sustaining and Improving Alfalfa during Near Drought Conditions

Alfalfa fields in Utah, USA and Ontario, Canada were experiencing near drought conditions giving poorly quality alfalfa and lower yields. *ByoGrow* was used to improve soil conditions in an attempt to help.

### Basis of Treatment

---

*ByoGrow* products include a unique blend of components designed to correct soil problems and provide basic nutrient requirements of plants and crops. The primary ingredients in *ByoGrow* include a proprietary humic acid extract, essential soil microbes, and a proprietary microbial biostimulant. *ByoGrow NPK* also contains a blend of N-P-K nutrients.

*ByoGrow* is scientifically designed to restore and maintain naturally beneficial microbial colonies in multiple soil environments. *ByoGrow* is engineered with an organic derived extract and nine enhanced plant beneficial soil microbes that are assimilated by plants on a cellular level. This advanced formula increases natural biological activity, detoxifies soil from contaminants, accelerates root development for critical nutrient storage, protects against pathogenic diseases, and transports valuable nutrients from the soil into the cell membrane of the plant. *ByoGrow* also contains an advanced biostimulant alkaloid compound derived from plant extracts, primarily aloe vera and kelp. This patented component provides for microbial stimulation that functions at a subenzymatic level – naturally increasing biological activity and facilitating beneficial microbial outcomes.

### Treatment

---

#### Utah, USA

An entire field of alfalfa was treated in Utah at a dosage of 64 ounces per acre through a pivot sprayer. Plant quality parameters were tested to determine the impact of this treatment.

#### Ontario, Canada

A 15 acre test plot was treated with *ByoGrow NPK* and compared against a 45 acre conventional plot of land in Ontario. The conventional plot was treated with 175 pounds/acre of 32-0-0 fertilizer. *ByoGrow NPK* was added to the test plot at a rate of 64 ounces per acre. At the time of treatment near drought conditions were prevalent.

### Results

---

#### Utah, USA

Results indicated crude protein levels increased from 19.0 to 23.8%, total fiber went from 31.8 to 27.0%, and relative feed value increased from \$165.78 to \$199.35.

#### Ontario, Canada

The test plot yield increased 7% with *ByoGrow NPK* treatment compared to the conventional plot yield which decreased 32%. Therefore, a 39% improvement was realized over the conventional treatment.

### Summary

---

*ByoGrow* products were able to increase crude protein levels in alfalfa during a difficult to farm period of time. In Ontario, plot using *ByoGrow NPK* were able to increase yields despite the harsh conditions.

